

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Longoni Examiner: UNKNOWN
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Filed: June 7, 2001 Docket No.: 975.347USW1
Title: CELL LOAD CONTROL METHOD AND SYSTEM

CERTIFICATE UNDER 37 C.F.R. 1.10:

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The undersigned hereby certifies that this Transmittal Letter and the paper or fee, as described herein, are being deposited with the United States Postal Service 'Express Mail Post Office To Addressee' service under 37 CFR 1.10 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

By: Lee Thao
Lee Thao

PRELIMINARY AMENDMENT

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Please enter the following preliminary amendment into the above-referenced application.

ABSTRACT

Please insert the attached abstract into the application as the last page thereof.

CLAIMS

Please amend claims 4,7,9,11,12,13,17,18,19,20,21,22,23,24,26 and 28 as follows. A clean copy of the entire set of claims is included below. A marked up copy of the amended claims is included in Appendix A.

1. A method for performing cell load control in a mobile radio network using diversity connections between base stations, comprising the steps of:

- a) transmitting a load information of a radio cell from a first radio network controller serving said radio cell to a second radio network controller not serving said radio cell; and
- b) using said load information in said second radio network controller for deciding on a load status of said radio cell.
2. A method according to claim 1, wherein said load status is used for deciding on an admission of said radio cell for handover of a mobile terminal controlled by the second radio network controller.
3. A method according to claim 2, wherein said load information is transmitted in response to a load request issued by said second radio network controller.
4. (AMENDED) A method according to claim 1, wherein said load information is transmitted, when a load level of said radio cell has reached a predetermined load threshold.
5. A method according to claim 4, wherein said second radio network controller commands a controlled mobile terminal to replace or delete a branch to said second cell, in response to said load information.
6. A method according to claim 3, wherein said load request is issued on the basis of a measurement of a neighbor cell supported by said mobile terminal.

7. (AMENDED) A method according to claim 3, wherein said load request is issued, when said radio cell is included in an active set or a candidate set of said mobile terminal, said active set or candidate set being used for determining radio cells for the handover of said mobile terminal.

8. A method according to claim 7, wherein said load request is issued, when said mobile terminal has transmitted a request to said second radio network controller to add said radio cell to said active set.

9. (AMENDED) A method according to claim 7, wherein said admission decision is directed to an admission or deletion of said radio cell in the active set of said mobile terminal.

10. A method according to claim 3, wherein a periodical load information is transmitted in response to said load request.

11. (AMENDED) A method according to claim 1, wherein said radio cell is located adjacent to an area served by said second network controller.

12. (AMENDED) A method according to claim 1, wherein said load information includes a transmission power level and a received interference level of said radio cell.

13. (AMENDED) A method according to claim 1, wherein said mobile radio network is a radio access network of the UMTS.

14. A method according to claim 1, wherein said load status is used for deciding on an amount of capacity which can be allocated to a user.

15. A method according to claim 1, wherein said load status is used for deciding when to order a mobile terminal to switch to a dedicated channel state.

16. A method according to claim 15, wherein said mobile terminal is ordered to switch to said dedicated channel, when said load status indicates an overload of a common channel.

17. (AMENDED) A system for performing cell load control in a mobile radio network using diversity connections between base stations, comprising:

- a) a first radio network controller comprising transmitting means arranged for transmitting a load information of a radio cell served by said first radio network controller to a second radio network controller not serving said radio cell; and
- b) said second radio network controller comprising a receiving means arranged for receiving said load information, and a decision means arranged for deciding on a load status of said radio cell.

18. (AMENDED) A system according to claim 17, wherein said load status is used for deciding on an admission of said radio cell for a handover of a mobile terminal controlled by said second radio network controller .

19. (AMENDED) A system according to claim 17, wherein said first radio network controller comprises a determination means for determining a load level of said radio cell and for generating said load information.

20. (AMENDED) A system according to claim 19, wherein said determination means controls said transmitting means so as to transmit said load information, when the load level of said radio cell has reached a predetermined load threshold.

21. (AMENDED) A system according to claim 19, wherein said first radio network controller comprises a receiving means for receiving a load request transmitted by a transmitting means of said second radio network controller, wherein said determination means is arranged to control said transmitting means of said first radio network controller to transmit said load information when said load request has been received by said receiving means.

22. (AMENDED) A system according to claim 21, wherein said determination means is arranged to periodically determine said load information and to control said transmitting means of said first radio network controller to periodically transmit said load information.

23. (AMENDED) A system according to claim 19, wherein said determination means is arranged to determine said load information on the basis of a load parameter received by said first radio network controller from a base station of said radio cell.
24. (AMENDED) A system according to claim 17, wherein said mobile radio network is a radio access network of the UMTS.
25. A system according to claim 17, wherein said load status is used for deciding on an amount of capacity which can be allocated to a user.
26. (AMENDED) A system according to claim 17, wherein said load status is used for deciding when to order a mobile terminal controlled by said second radio network controller to switch to a dedicated channel state.
27. A system according to claim 26, wherein said mobile terminal is ordered to switch to said dedicated channel, when said load status indicates an overload of a common channel.
28. (AMENDED) A radio network controller used as said first or second radio network controller in a system according to claim 17.

REMARKS

The above preliminary amendment is made to insert an abstract page into the application and to remove multiple dependencies from claims 4,7,9,11,12,13,17,18,19,20,21,22,23,24,26 and 28.

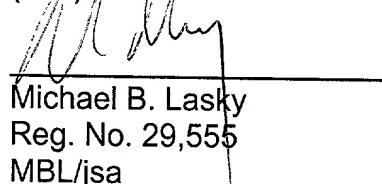
Applicant respectfully requests that this preliminary amendment be entered into the record prior to calculation of the filing fee and prior to examination and consideration of the above-identified application.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Michael B. Lasky at 952-912-0527.

Respectfully submitted,

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By:


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Date: June 7, 2001

Appendix A
Marked Up Version of the Amended Claims

4. (AMENDED) A method according to [any one of] claim[s] 1 [to 3],
wherein said load information is transmitted, when a load level of said radio cell has
reached a predetermined load threshold.
7. (AMENDED) A method according to claim 3 [or 6], wherein said load
request is issued, when said radio cell is included in an active set or a candidate set of
said mobile terminal, said active set or candidate set being used for determining radio
cells for the handover of said mobile terminal.
9. (AMENDED) A method according to claim 7 [or 8], wherein said
admission decision is directed to an admission or deletion of said radio cell in the
active set of said mobile terminal.
11. (AMENDED) A method according to [any one of the preceding]
claim[s] 1, wherein said radio cell is located adjacent to an area served by said second
network controller.
12. (AMENDED) A method according to [any one of the preceding]
claim[s] 1, wherein said load information includes a transmission power level and a
received interference level of said radio cell.

13. (AMENDED) A method according to [any one of the preceding] claim[s] 1, wherein said mobile radio network is a radio access network of the UMTS.

17. (AMENDED) A system for performing cell load control in a mobile radio network using diversity connections between base stations [(2-1, 2-2)], comprising:

- a) a first radio network controller [(3-1)] comprising transmitting means [(10)] arranged for transmitting a load information of a radio cell [(13)] served by said first radio network controller [(3-1)] to a second radio network controller [(3-2)] not serving said radio cell [(13)]; and
- b) said second radio network controller [(3-2)] comprising a receiving means [(20)] arranged for receiving said load information, and a decision means [(21)] arranged for deciding on a load status of said radio cell [(13)].

18. (AMENDED) A system according to claim 17, wherein said load status is used for deciding on an admission of said radio cell [(13)] for a handover of a mobile terminal [(1)] controlled by said second radio network controller [(3-2)].

19. (AMENDED) A system according to claim 17 [or 18], wherein said first radio network controller [(3-1)] comprises a determination means [(11)] for determining a load level of said radio cell [(13)] and for generating said load information.

20. (AMENDED) A system according to claim 19, wherein said determination means [(11)] controls said transmitting means [(10)] so as to transmit said load

information, when the load level of said radio cell [(13)] has reached a predetermined load threshold.

21. (AMENDED) A system according to claim 19 [or 20], wherein said first radio network controller [(3-1)] comprises a receiving means [(10)] for receiving a load request transmitted by a transmitting means [(20)] of said second radio network controller [(3-2)], wherein said determination means [(11)] is arranged to control said transmitting means [(10)] of said first radio network controller [(3-1)] to transmit said load information when said load request has been received by said receiving means [(10)].

22. (AMENDED) A system according to claim 21, wherein said determination means [(11)] is arranged to periodically determine said load information and to control said transmitting means [(10)] of said first radio network controller [(3-1)] to periodically transmit said load information.

23. (AMENDED) A system according to [any one of] claim[s] 19 [to 22], wherein said determination means [(11)] is arranged to determine said load information on the basis of a load parameter received by said first radio network controller [(3-1)] from a base station [(2-1)] of said radio cell [(13)].

24. (AMENDED) A system according to [any one of] claim[s] 17 [to 23], wherein said mobile radio network is a radio access network of the UMTS.

26. (AMENDED) A system according to claim 17, wherein said load status is used for deciding when to order a mobile terminal controlled by said second radio network controller [(3-2)] to switch to a dedicated channel state.

28. (AMENDED) A radio network controller used as said first [(3-1)] or second [(3-2)] radio network controller in a system according to [any one of] claim[s] 17 [to 27].